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STATEMENT OF
J. KENNETH FASICK
DIRECTOR, INTERNATIONAL DIVISION
BEFORE THE
C1 COMMITTEE ON GOVERNMENT OPERATIONS SEN
UNITED STATES SENATE



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MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

AT YOUR REQUEST WE ARE HERE TO DISCUSS OUR JULY 1975
REPORT ON OUR REVIEW OF THE ROLE OF THE INTERNATIONAL ATOMIC
ENERGY AGENCY IN SAFEGUARDING NUCLEAR MATERIAL. THE REVIEW
LEADING TO OUR REPORT WAS UNDERTAKEN AT THE REQUEST OF THE
CHAIRMAN, HOUSE INTERNATIONAL RELATIONS COMMITTEE.

THE RAPID GROWTH OF NUCLEAR POWER AS A SOURCE OF ENERGY
HAS FOCUSED CONSIDERABLE ATTENTION ON THE PROLIFERATION OF
NUCLEAR MATERIAL AND THE POTENTIAL DIVERSION OF THIS MATERIAL
FROM PEACEFUL ACTIVITIES TO THE DEVELOPMENT OF NUCLEAR
EXPLOSIVE DEVICES.

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IT HAS BEEN ESTIMATED THAT BY 1980 THE NUMBER OF POWER REACTORS IN IAEA MEMBER COUNTRIES WILL INCREASE FROM THE 1974 LEVEL OF 182 (WITH A CAPACITY OF ABOUT 72,000 MEGAWATTS) TO ABOUT 400 (WITH A CAPACITY OF ABOUT 263,000 MEGAWATTS). AN IAEA SURVEY ESTIMATED THE MARKET FOR NUCLEAR POWER REACTORS IN DEVELOPING COUNTRIES BETWEEN 1981 AND 1990 WOULD AMOUNT TO AN ADDITIONAL 355 UNITS WITH A TOTAL CAPACITY OF 220,000 MEGAWATTS.

NUCLEAR POWER REACTORS IN USE THROUGHOUT THE WORLD TODAY ARE FUELED WITH EITHER NATURAL OR SLIGHTLY ENRICHED URANIUM. AFTER SUCH URANIUM HAS BEEN USED TO FUEL A REACTOR FOR ABOUT A YEAR, PLUTONIUM IS PRODUCED AS A BYPRODUCT IN THE SPENT FUEL WHICH IS RECOVERABLE THROUGH CHEMICAL REPROCESSING. ONLY PLUTONIUM AND HIGHLY ENRICHED URANIUM ARE SUITABLE TO MAKING NUCLEAR EXPLOSIVES. BETWEEN 5 AND 10 KILOGRAMS OF PLUTONIUM OR BETWEEN 20 AND 30 KILOGRAMS OF HIGHLY ENRICHED URANIUM ARE NEEDED TO MAKE A NUCLEAR EXPLOSIVE DEVICE.

TO DETECT ANY DIVERSION OF U.S. SUPPLIED NUCLEAR MATERIAL WHICH MIGHT BE USED FOR OTHER THAN PEACEFUL PURPOSES, THE UNITED STATES INITIALLY ESTABLISHED BILATERAL SAFEGUARDS UNDER ITS INDIVIDUAL AGREEMENTS WITH FOREIGN GOVERNMENTS FOR COOPERATION IN THE CIVIL USES OF ATOMIC ENERGY. HOWEVER, SINCE THE INCEPTION OF THE IAEA, THE UNITED STATES HAS ALMOST COMPLETELY PHASED OUT ITS BILATERAL PROGRAM IN FAVOR OF INTERNATIONAL OR IAEA SAFEGUARDS.

IAEA, FOUNDED IN 1957, IS AN AUTONOMOUS INTERGOVERNMENTAL ORGANIZATION HEADQUARTERED IN VIENNA, AUSTRIA. UNDER THE AEGIS OF THE UNITED NATIONS, IT IS RECOGNIZED AS THE AGENCY RESPONSIBLE FOR INTERNATIONAL ACTIVITIES CONCERNED WITH THE PEACEFUL USES OF ATOMIC ENERGY. THIS RESPONSIBILITY INCLUDES THE IMPORTANT FUNCTION OF ESTABLISHING AND ADMINISTERING INTERNATIONAL SAFEGUARDS.

THE TERM "SAFEGUARDS" WITHIN THE INTERNATIONAL CONTEXT REFERS TO A SYSTEM OF INSPECTION AND VERIFICATION WHICH, WHEN

APPLIED TO ONE COUNTRY'S NUCLEAR ACTIVITIES, WILL PROVIDE ASSURANCE TO OTHER COUNTRIES THAT NUCLEAR MATERIAL IS NOT BEING DIVERTED FOR NONPEACEFUL PURPOSES.

THE 106 MEMBER COUNTRIES OF IAEA INCLUDE ALL NATIONS WITH SIGNIFICANT AMOUNTS OF NUCLEAR ACTIVITY, EXCEPT THE PEOPLE'S REPUBLIC OF CHINA AND THE REPUBLIC OF CHINA (TAIWAN). THE LATTER'S NUCLEAR FACILITIES, HOWEVER, ARE SUBJECT TO AGENCY SAFEGUARDS.

HOWEVER, MEMBERSHIP IN THE AGENCY DOES NOT OBLIGATE A COUNTRY TO ACCEPT SAFEGUARDS ON ITS FACILITIES. FOR EXAMPLE, NUCLEAR FACILITIES OF MAJOR NUCLEAR WEAPONS COUNTRIES, SUCH AS THE UNITED STATES AND THE SOVIET UNION, ARE NOT SUBJECT TO AGENCY SAFEGUARDS EXCEPT ON A VOLUNTARY BASIS. IN ADDITION, INDIA, WHICH EXPLODED A NUCLEAR DEVICE IN 1974, ALONG WITH CERTAIN OTHER IAEA MEMBER NATIONS, HAS NUCLEAR FACILITIES WHICH ARE NOT SUBJECT TO AGENCY SAFEGUARDS.

THE AGENCY'S SAFEGUARDS SYSTEM CONSISTS OF MATERIAL ACCOUNTABILITY, ONSITE INSPECTIONS, AND SURVEILLANCE AND CONTAINMENT DEVICES SUCH AS CAMERAS AND SEALS. THE PRINCIPLE IS THAT THE DETECTION CAPACITY OF THE SYSTEM WILL DETER A WOULD-BE DIVERTER. HOWEVER, LIMITATIONS IN THE SCOPE AND APPLICABILITY OF INSPECTIONS MUST BE RECOGNIZED.

--AGENCY SAFEGUARDS ARE DESIGNED ONLY TO DETECT DIVERSIONS ON THE NATIONAL LEVEL, AND IT IS ASSUMED THAT MEMBER NATIONS WILL PROTECT NUCLEAR MATERIAL FROM TERRORIST OR SUBNATIONAL GROUPS.

--AGENCY SAFEGUARDS DO NOT INCLUDE PHYSICAL PROTECTION, THE SAFE INTERNATIONAL TRANSPORT OF NUCLEAR MATERIAL, OR THE SAFEGUARDING OF NUCLEAR WASTE.

--THE AGENCY DOES NOT HAVE THE AUTHORITY TO SEEK OUT UNDECLARED OR CLANDESTINE NUCLEAR FACILITIES AND CANNOT PURSUE OR RETRIEVE DIVERTED NUCLEAR MATERIAL.

THE DESIRED EFFECTS OF IAEA SAFEGUARDS ARE TO (1) DETER, THROUGH PROMPT DETECTION, NATIONAL DIVERSIONS OF SAFEGUARDED NUCLEAR MATERIAL; (2) PLACE RESPONSIBILITY ON THE COUNTRY FOR INSTITUTING DOMESTIC PROGRAMS TO GUARD AGAINST SUBNATIONAL DIVERSION OF SAFEGUARDED NUCLEAR MATERIAL (I.E., BY INDIVIDUALS OR GROUPS ACTING CONTRARY TO GOVERNMENT POLICY); (3) REDUCE SPECIFIC INTERNATIONAL TENSIONS BY PROVIDING A DEGREE OF ASSURANCE AMONG COUNTRIES, ESPECIALLY HOSTILE NEIGHBORS, THAT THE SAFEGUARDED COUNTRY IS NOT DEVELOPING NUCLEAR EXPLOSIVE DEVICES; AND (4) INSURE THAT INTERNATIONAL NUCLEAR COMMERCE CAN BE FREELY CONDUCTED WITHOUT CONTRIBUTING TO INSECURITY AND TENSION AMONG NATIONS.

IAEA HOPES TO APPLY SAFEGUARDS WITH A HIGH DEGREE OF RELIABILITY AND ASSURANCE, WITHIN ACCEPTABLE COST LIMITS AND WITHOUT UNDULY INTERFERING WITH COMMERCIAL OPERATIONS. AT THE PRESENT TIME, THE CHALLENGES TO SAFEGUARDS ARE GREAT.

RAPID GROWTH IS EXPECTED IN NUCLEAR FACILITIES THROUGHOUT THE WORLD, AND IAEA WILL BE TASKED TO RESPOND. INSTRUMENTATION AND TECHNIQUES WILL NEED TO BE DEVELOPED AND REFINED. ADEQUATE NUMBERS OF QUALIFIED STAFF WILL NEED TO BE RECRUITED, AND POLITICAL SOLUTIONS AND COMPROMISES WITH PARTICIPATING NATIONS AND FACILITY OPERATORS WILL BE NEEDED.

ALTHOUGH IAEA IS WORKING DILIGENTLY IN THE SAFEGUARDS AREA, PROBLEMS DO EXIST AND WILL PROBABLY CONTINUE TO DEVELOP. THEY RELATE TO SUCH MATTERS AS:

- ADEQUACY OF MATERIAL ACCOUNTABILITY RECORDS WITHIN THE MEMBER COUNTRIES AND THEIR COMPATIBILITY WITH THE AGENCY'S SYSTEM.
- CONTINUING NEED FOR MORE ADVANCED MEASURING INSTRUMENTATION.
- EQUITABLE APPORTIONMENT OF COSTS OF THE SAFEGUARDS SYSTEM AMONG MEMBER NATIONS.
- OBTAINING AND TRAINING QUALIFIED INSPECTORS.

--DIFFERENCES IN SAFEGUARDS AGREEMENTS WITH MEMBER COUNTRIES AND THEIR INTERPRETATION.

IT WOULD BE DIFFICULT IF NOT IMPOSSIBLE TO PROVE WHETHER OR TO WHAT DEGREE SAFEGUARDS ACTUALLY ACCOMPLISH THE DESIRED EFFECTS. ALTHOUGH CERTAIN CONCLUSIONS CAN BE DERIVED FROM SAFEGUARDS ACTIVITIES, THE EXTENT TO WHICH THE SAFEGUARDS ARE EFFECTIVELY APPLIED IS LARGELY A MATTER OF JUDGMENT.

IN OUR OPINION, THE REAL EFFECTIVENESS OF AGENCY SAFEGUARDS IS NOT KNOWN. THERE IS NO PUBLIC EVIDENCE TO SHOW WHETHER AGENCY SAFEGUARDS HAVE PREVENTED OR DETECTED DIVERSION OF NUCLEAR MATERIAL FROM INTENDED PEACEFUL PURPOSES.

THE MERE FACT THAT THE AGENCY HAS NEVER DISCLOSED A DIVERSION IS NOT SUFFICIENT ASSURANCE FOR MANY COUNTRIES THAT THE SAFEGUARDS ARE EFFECTIVE.

--EFFECTIVE INTERNATIONAL SAFEGUARDS DEPEND IN LARGE MEASURE ON THE INTENT AND COOPERATION OF THE COUNTRY

TO WHICH THEY ARE APPLIED AND THE ADEQUACY OF
TECHNOLOGICAL CONTROL AND IMPLEMENTATION.

--U.S. AND AGENCY OFFICIALS GENERALLY CONCEDED THAT
A COUNTRY COULD CIRCUMVENT SAFEGUARDS IF IT WAS
WILLING TO ASSUME THE RISK OF DETECTION, INCUR THE
EXPENSE, AND TAKE THE TROUBLE TO DO SO.

--SINCE THE AGENCY DOES NOT DISCLOSE TO MEMBER NATIONS
RESULTS OF ITS INSPECTIONS, ON THE GROUNDS THAT
PROPRIETARY INFORMATION MIGHT BE DISCLOSED, THE
AGENCY FACES THE DIFFICULT PROBLEM OF HOW TO ASSURE
MEMBER NATIONS THAT SAFEGUARDS ARE BEING APPLIED
EFFECTIVELY, FAIRLY, AND CONSISTENTLY IN ALL COUNTRIES.

IF THE IAEA SAFEGUARDS INSPECTORS CANNOT VERIFY THE NON-
DIVERSION OF SPECIAL NUCLEAR MATERIAL, THE COUNTRY INVOLVED
IS TO BE GIVEN A "REASONABLE TIME" TO TAKE CORRECTIVE ACTION
BEFORE NONCOMPLIANCE PROCEDURES MAY BE INITIATED. SUCH PRO-
CEDURES INCLUDE NOTIFICATION TO MEMBER COUNTRIES AND THE

UNITED NATIONS SECURITY COUNCIL AND GENERAL ASSEMBLY.

CONTINUED FAILURE BY THE COUNTRY TO RECTIFY THE SITUATION MAY ALSO RESULT IN THE RECALL OF IAEA-SPONSORED MATERIAL AND TECHNICAL ASSISTANCE AS WELL AS SUSPENSION OF MEMBERSHIP RIGHTS AND PRIVILEGES. BY THE TIME THE SANCTIONS ARE MADE, THE COUNTRY MAY HAVE HAD SUFFICIENT TIME TO COMPLETE ITS WEAPONS DEVELOPMENT. IT IS ALSO NOT CLEAR HOW IAEA-SPONSORED MATERIAL WOULD BE RETRIEVED.

IN VIEW OF DANGERS INVOLVED IN THE SPREAD OF NUCLEAR WEAPONS CAPABILITY, STRONGER PENALTIES MAY BE NEEDED FOR THOSE WHO MIGHT VIOLATE THEIR PLEDGE TO USE NUCLEAR MATERIAL ONLY FOR PEACEFUL PURPOSES.

THERE HAS BEEN SOME QUESTION AS TO WHETHER U.S. INTERESTS ARE BEST SERVED THROUGH BILATERAL OR IAEA SAFEGUARDS. THERE ARE ADVANTAGES AND DISADVANTAGES TO BOTH. U.S. OFFICIALS HAVE OUTLINED THE FOLLOWING ADVANTAGES TO IAEA SAFEGUARDS.

- IAEA SAFEGUARDS MAY BE VIEWED GLOBALLY AS MORE CREDIBLE THAN BILATERAL SAFEGUARDS, PARTICULARLY IN INSTANCES WHERE THE SUPPLIER AND THE RECIPIENT ARE CLOSE ALLIES.
- IAEA SAFEGUARDS WOULD BE MORE UNIFORM AND THUS WOULD MINIMIZE DISCRIMINATORY APPLICATION. IF SEVERAL SUPPLIER COUNTRIES HAD BILATERAL SAFEGUARDS SYSTEMS, EFFECTIVE APPLICATION MIGHT WELL BE REDUCED TO THE LEAST STRICT SYSTEM.
- SAFEGUARDS APPLIED BY AN INTERNATIONAL ORGANIZATION CAN SERVE AS AN IMPORTANT PRECEDENT FOR INTERNATIONAL INSPECTION FOR ANY FUTURE DISARMAMENT AGREEMENT.
- IT WOULD BE MORE EXPENSIVE, IN THE AGGREGATE, FOR MANY SUPPLYING COUNTRIES TO ESTABLISH DUPLICATIVE INSPECTION SYSTEMS THAN FOR ONE INTERNATIONAL ORGANIZATION TO UNDERTAKE THE JOB.

--RELYING UPON IAEA TO CARRY OUT THE SAFEGUARDS FUNCTION
ENHANCES ITS PRESTIGE AND INCREASES ITS RESPONSIBILITIES
AND THEREBY MAKES IT A MORE EFFECTIVE INSTRUMENT IN ALL
OF ITS FIELDS OF ENDEAVOR.

--BECAUSE OF COSTS AND TECHNICAL MANPOWER LIMITATIONS,
MANY SUPPLYING COUNTRIES WOULD FIND IT DIFFICULT IF
NOT IMPOSSIBLE TO UNDERTAKE BILATERAL SAFEGUARDS ON
NUCLEAR MATERIALS WHICH THEY SUPPLY.

ON THE OTHER HAND, IAEA AND U.S. OFFICIALS ADVISED THAT
IN CERTAIN INSTANCES A SUPPLIER COUNTRY MIGHT BE IN A POSITION
TO NEGOTIATE STRONGER SAFEGUARDS PROVISIONS BILATERALLY THAN
IAEA. THIS IS PARTICULARLY TRUE WHEN THE SUPPLIER COUNTRY IS
A PRIMARY OR SOLE SOURCE AS IT MAY BE ABLE TO OVERRIDE ANY
RESTRICTIONS OR LIMITATIONS DESIRED BY THE RECIPIENT COUNTRY
ON SAFEGUARDS APPLICATION. HOWEVER, AS MORE COUNTRIES BECOME
EXPORTERS OF SIMILAR NUCLEAR COMMODITIES, SUPPLIERS MAY BECOME
RELUCTANT TO PUT THEMSELVES AT A COMMERCIAL DISADVANTAGE BY
REQUIRING TOO STRINGENT SAFEGUARDS.

THE OBVIOUS ADVANTAGE OF THE BILATERAL SAFEGUARDS SYSTEM IS THAT THE SUPPLIER WOULD HAVE MORE CONFIDENCE IN AN INSPECTION OR SYSTEM WHICH IT CONTROLLED THAN IN THE EFFORTS OF OTHERS. BILATERAL SAFEGUARDS PROVIDE THE SUPPLIER WITH GREATER ASSURANCE THAT MATERIAL IT SUPPLIED IS NOT DIVERTED BUT PROVIDE NO ASSURANCE ON MATERIALS SUPPLIED BY OTHERS.

ACCORDING TO A STATE DEPARTMENT OFFICIAL, A SUPPLIER, EVEN ONE LIKE THE UNITED STATES THAT HAS TRANSFERRED ITS BILATERAL SAFEGUARDS RESPONSIBILITIES TO IAEA, CAN GET FEW DETAILS OF THE PRECISE STATUS OF MATERIALS SUPPLIED BECAUSE IAEA INSPECTION REPORTS ARE NOT MADE AVAILABLE TO THE SUPPLIER. POLITICALLY, HOWEVER, U.S. OFFICIALS BELIEVE THAT IAEA SAFEGUARDS ARE PREFERABLE.

IT IS DIFFICULT TO COMPARE IAEA AND U.S. BILATERAL SAFEGUARDS BECAUSE (1) MOST OF THE U.S. EXPERIENCE IN INTERNATIONAL SAFEGUARDS WAS GAINED DURING THE FORMATIVE YEARS AND DEALT PRIMARILY WITH RESEARCH REACTORS, (2) THE UNITED

STATES SUBSEQUENTLY ASSIGNED THE MAJORITY OF ITS BILATERAL SAFEGUARDS RESPONSIBILITIES TO IAEA, AND (3) THE U.S. EXPERIENCE APPLIED, FOR THE MOST PART, TO THE TYPES OF REACTORS AND EQUIPMENT WHICH WERE PRODUCED AND EXPORTED FROM THE UNITED STATES, WHEREAS IAEA SAFEGUARDS APPLY TO FOREIGN AS WELL AS U.S. TYPES OF REACTORS AND EQUIPMENT. WITH ASSISTANCE FROM CERTAIN MEMBER NATIONS, IAEA IS ADVANCING THE STATE OF THE ART IN SAFEGUARDS.

MATTERS FOR CONSIDERATION BY THE COMMITTEE

THE COMMITTEE, TOGETHER WITH OTHER APPROPRIATE COMMITTEES OF THE CONGRESS, MAY WISH TO PURSUE WITH EXECUTIVE BRANCH OFFICIALS MAJOR POLICY MATTERS RELATED TO THE ROLE OF THE AGENCY, INCLUDING:

--THE NEED FOR EXPANDING AGENCY RESPONSIBILITIES IN THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL, CONTROL OF NUCLEAR WASTE, AND SAFE TRANSPORT OF NUCLEAR MATERIALS INTERNATIONALLY.

--THE TECHNICAL AND POLITICAL LIMITATIONS IN APPLYING
AGENCY SAFEGUARDS.

--THE LACK OF SUFFICIENTLY STRONG PENALTIES OR SANCTIONS
ON A COUNTRY THAT DIVERTS NUCLEAR MATERIAL FOR
MILITARY PURPOSES OR THAT KNOWINGLY SUPPLIES MATERIAL
TO ANOTHER COUNTRY FOR DEVELOPING NUCLEAR EXPLOSIVE
DEVICES.

IN ADDITION, THE COMMITTEE MAY WISH TO DISCUSS WITH
EXECUTIVE BRANCH OFFICIALS THE DESIRABILITY OF PROPOSING
THAT THE AGENCY PUBLISH ANNUALLY A REPORT SHOWING, BY
MEMBER COUNTRY, THE AMOUNT OF NUCLEAR MATERIALS SUBJECT TO
ITS SAFEGUARDS AND THE AMOUNT AND/OR PERCENTAGE OF MATERIAL
WHICH COULD NOT BE ACCOUNTED FOR DURING AGENCY INSPECTIONS,
WHILE NOT DIVULGING HOST COUNTRY PROPRIETARY INFORMATION.
THIS COULD HELP ASSURE ALL MEMBER COUNTRIES THAT SAFEGUARDS
ARE EFFECTIVE AND THAT SAFEGUARDED MATERIAL IS NOT BEING
DIVERTED.

MR. CHAIRMAN, THAT COMPLETES MY SUMMARY OF OUR REPORT ON
THE ROLE OF IAEA IN SAFEGUARDING NUCLEAR MATERIAL. WE WILL BE
PLEASED TO RESPOND TO ANY QUESTIONS YOU MAY HAVE.